University of Agronomic Sciences and Veterinary Medicine of Bucharest
Faculty of Horticulture

International Student Symposium *"Hortus Academicus"*
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Processing possibilities of exotic fruits (kiwi, pawpaw and jujube) produced in Romania

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Introduction

Kiwi, pawpaw and jujube
- new species in fruit growing of Romania
- processing possibilities are absolutely necessary

Actinidia deliciosa,
A. chinesis, A. arguta

Ziziphus jujuba

Asimina triloba

Introduction

Romanian kiwifruit, asimina and jujube products:

1. High nutraceutical value
2. Zero pesticide residues
3. Corresponding with market requirements and preferences
4. Additional income for farmers

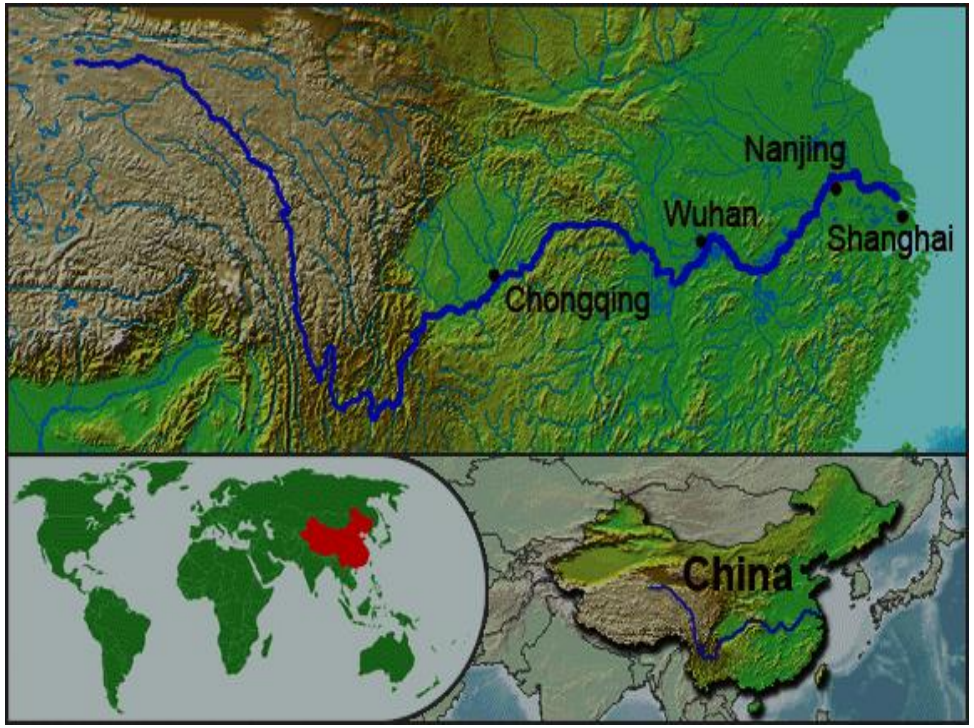
Origin

The kiwifruit, or Chinese gooseberry, originally grew wild in China.

The first commercial plantations were established in New Zealand in the early twentieth century.

Isabel Fraser

Hayward Wright



Yangtze River Valley

Kiwi - Importance

Kiwi is a fruit with nutraceutical properties, with a pleasant taste, which brings extra energy and vitality to the body.

Health benefits of Kiwifruit:

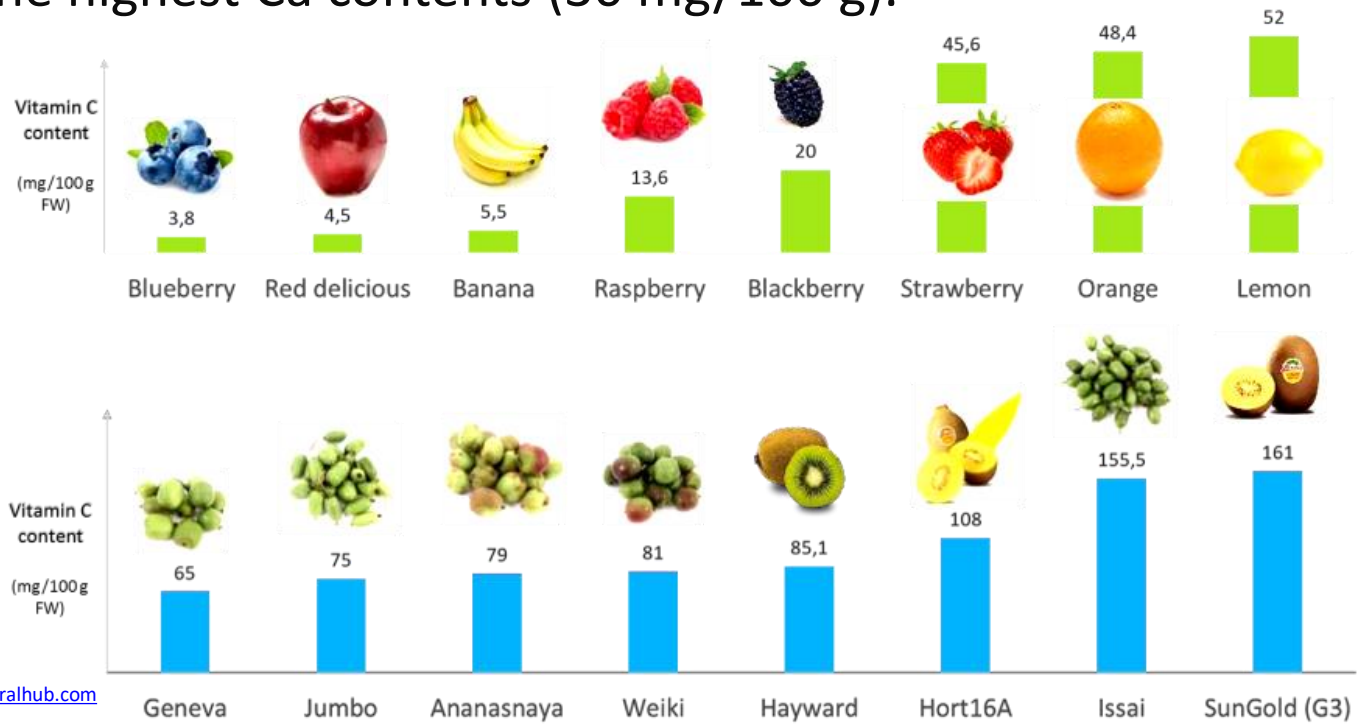
- Improves the immune system
- Reduces risk of other health conditions
- Aids digestion
- Help manage blood pressure
- Protects against vision loss
- Reduces blood clotting

Kiwi - Benefits

The nutritional value of the fruit is high especially by the content of vitamin C, of over 140 mg/100 g fresh product.

The fruit content in water is 81.8%, and in sugars 11.7%, the energy value being 48 kcal.

Actinidia fruits have the highest Fe content (3.7 mg/100 g) and one of the highest Ca contents (30 mg/100 g).

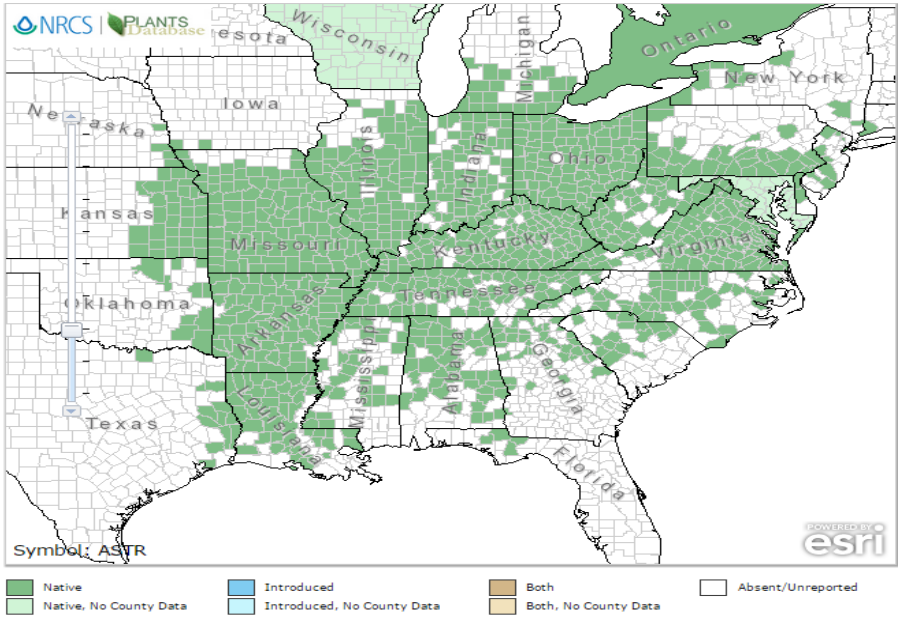


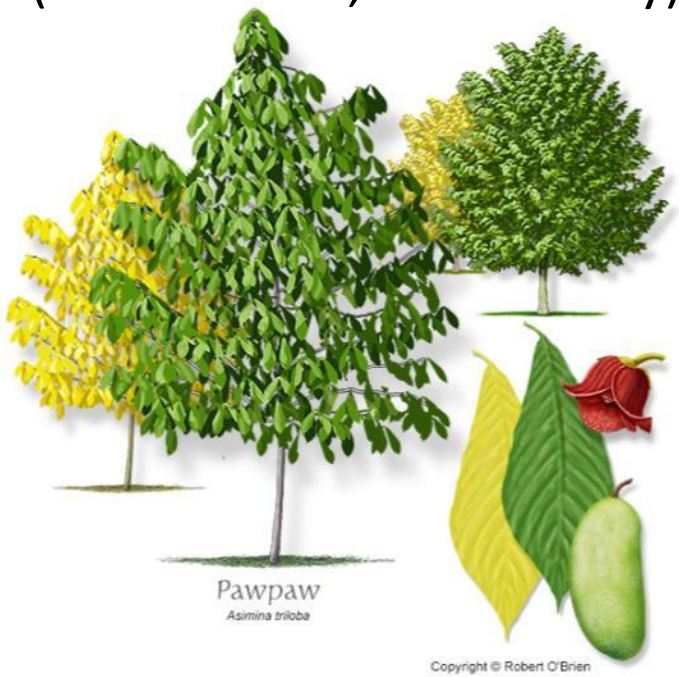
Sursa: www.naturalhub.com

Origin

Originated from the Eastern part of USA, it is a nearly unknown fruit with high nutraceutical potential. The increasing demands from the consumers in the recent years require specific researches in the local conditions.

The species was introduced to Romania by a family of immigrants from northwestern Transilvania (Pianu de Sus, Alba County)





PawPaw – Benefits

Asimina fruits are rich in carbohydrates and fiber, vitamins B and C, minerals P, Mg, Ca, K and essential acids such as leucine.

Health benefits of PawPaw:

- Anti – inflammatory properties
- Skin smoothing and moisturizing
- Calming respiratory problems
- Stomach ulcer
- Diabetes
- Parasite removal
- As an antioxidant

Origin

It is native to Central Asia where it has been cultivated since the earliest times and from where it has spread to Asia Minor, North Africa, Europe and America.

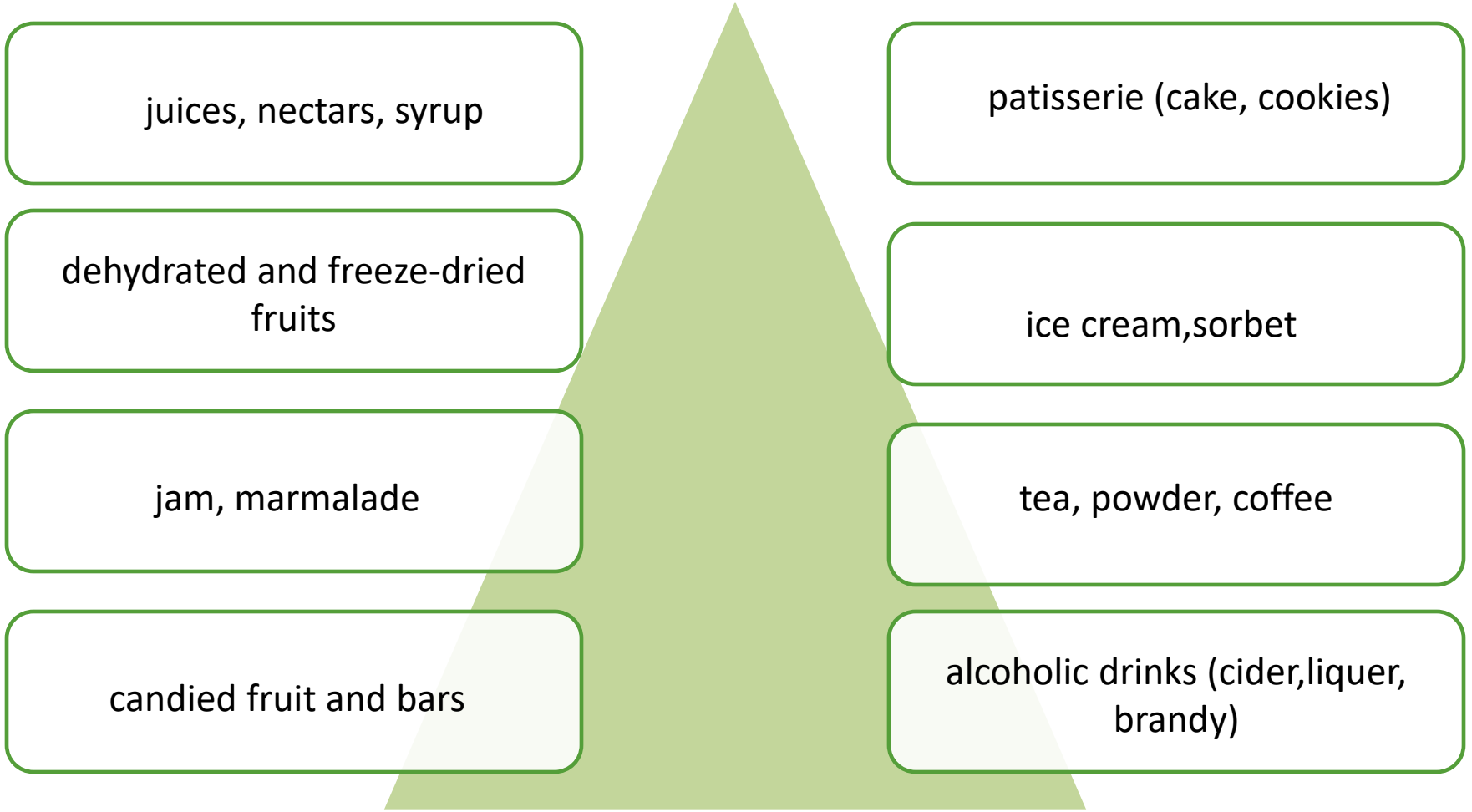
Since it was introduced into neighboring countries such as Korea and Japan 2000 years ago, jujube has spread to at least 48 countries, commercial jujube cultivation has developed at different levels in China, South Korea, Iran, Israel, the United States, Italy, Australia, and other countires.

Jujube - Benefits

Nutraceutical properties:

- Vitamins: ascorbic acid 330-880 mg/100 g pp.; vitamin P (citrine) exceeds 1,000 mg/100 g pp.; B vitamins.
- Microelements: Fe 0.355%, Ca 0.246%, Mg 0.057%, Zn 5.044 ppm, Mn 3.85 ppm, Cu 2.364 ppm.
- Macroergic compounds:
Adenosine 3-5 monophosphate - up to 500nmol/g of dry matter, (10 times more than any plant analyzed so far).
- Fatty acids: large amounts of oleanolic acid.

Processing possibilities of kiwi, pawpaw and jujube fruits



New product requirements from the farmers/producers point of view

- Low production costs
- Easy crop management
- Fresh fruits fast saling
- Processing of unsold surplus fruits
- Facile marketing
- Visibility and easy interaction with customers
- Get as much profit as possible

New product requirements from the consumers point of view

- Balanced Quality/Price Ratio
- New&Innovative Products - but taking into account the ”national taste”
- Reinterpretation of traditional products by replacing “local” fruits with kiwi/pawpaw/jujube in the recipe
- ”Organic” - healthy products
- Local products – ”0 kilometers”

Processed exotic fruits worldwide

Dehydrated fruits

Candied fruits

Freeze-dried fruits

Ice-cream

Processed exotic fruits worldwide

Juice

Cider

Liqueur

Vinegar

Honey

Compote

Processed exotic fruits worldwide

Jellies and other delights "sweet"

Tea

Jam

Bread

Coffee

Processed exotic fruits worldwide

cake

powder

pharmaceutical products

adjuvant in the food industry (patisserie)

First trials on processing exotic fruits (kiwi, pawpaw and jujube) in Romania

First trials on processing exotic fruits (kiwi, pawpaw and jujube) in Romania

Dehydrated and freeze-dried fruits

Jujube

Jujube with nuts

Jujube with almonds

First trials on processing exotic fruits (kiwi, pawpaw and jujube) in Romania

Juice

Ice-cream

Cheesecake

Sweetener tea / coffee

Tea jujube

First trials on processing exotic fruits (kiwi, pawpaw and jujube) in Romania

Jam

Centrul de Cercetare pentru Controlul Calității Produselor Agroalimentare
Laboratorul de Pomicultură Integrată
Dulceață de kiwi - KIII
din cultură ecologică

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Laboratorul de Pomicultură Integrată
Dulceață de kiwi verde - KVII
(R0P9)

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Laboratorul de Pomicultură Integrată
Dulceață de kiwi verde - KVIII
(R0P1)

Processing possibilities of exotic fruits of kiwi, pawpaw and jujube for the Romanian market

Kiwi flower tea

Cakes and other pastries

Cookies

Cake

Processing possibilities of exotic fruits of kiwi, pawpaw and jujube for the Romanian market

Honey

FoodIntelForum.ro Ediția a III-a, 25 iunie – 9 iulie 2020

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Laboratorul de Pomicultură Integrată
Dulceață de kiwi verde - KVII
(R0P9)

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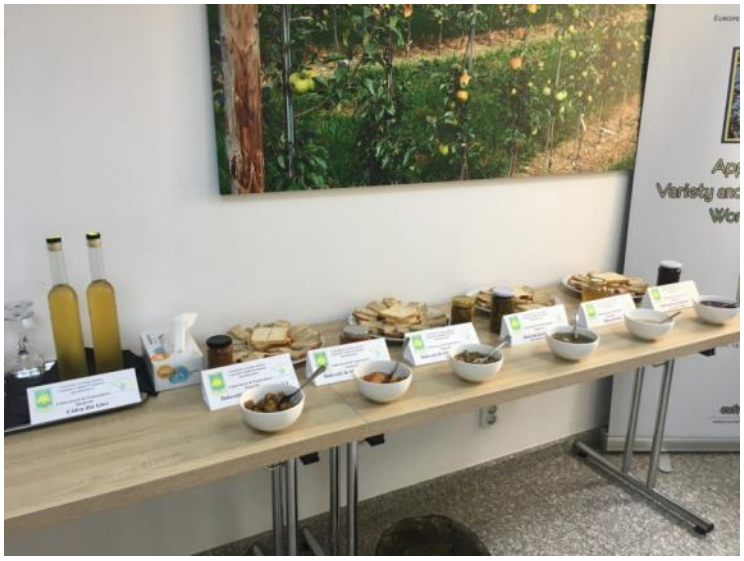
Laboratorul de Pomicultură Integrată
Cidru din kiwi

Centrul de Cercetare pentru Controlul Calității Produselor Agroalimentare
Laboratorul de Pomicultură Integrată
Miere de kiwi



Jujube Workshop 2020 - 2 Octombrie
“Perspectivele extinderii culturii curmalului dobrogean (*Ziziphus jujuba* Mill.) în România”

Through the special value of the fruits, we are convinced that these new species (kiwi,pawpaw, jujube) will expand the offer of fruit products and will quickly find their consumers.

Thank you!